

3M Scotch™ 130C

Linerless Rubber Splicing Tape

Data Sheet



Product Description

Scotch™ 130C Electrical Tape is a highly conformable linerless Ethylene Propylene Rubber (EPR), high voltage insulating tape formulated to provide excellent thermal dissipation of splice heat. The tape is designed for use in splicing and terminating wires and cables. Rated up to 90°C continuous operating temperatures and short term 130°C overload service. The tape will meet industry specifications for flame retardance and has excellent physical and electrical properties which provide immediate moisture seals and void-free buildups. This product can be used for low – and high – voltage (up to 69 kV) applications.

Tape Features

- ❖ Linerless, self-bonding primary insulating tape rated up to 69 kV.
- ❖ High thermal conductivity.
- ❖ Ethylene propylene base.
- ❖ Flame retardant.
- ❖ Excellent physical and electrical properties.
- ❖ Designed to insulate splices and terminate cables whose overload temperatures can reach 130°C.
- ❖ Physical and electrical properties unaffected by degree of stretch.
- ❖ Physical and electrical properties unaffected by solvents normally used when splicing high-voltage cables.
- ❖ Compatible with common solid dielectric cable insulation.
- ❖ Uniform tape unwind from roll.
- ❖ Small roll size (OD)
- ❖ Five year shelf life.
- ❖ Stable over wide applications temperature range.
- ❖ Weather resistant.

Applications

- ❖ Primary insulation for splicing all types of solid dielectric insulated cables up to 69 kV.
- ❖ Primary insulation for building stress cones on all types of solid dielectric insulated cables up to 35 kV.
- ❖ Jacketing (secondary insulation) on high-voltage splices and terminations.
- ❖ Moisture sealing electrical connections.
- ❖ Bus bar insulations.
- ❖ End sealing high-voltage cables.
- ❖ Motor leads.
- ❖ Jacket repairs.

Physical Properties

Test Method	Typical Value*
Colour	Black
Thickness ASTM D-4325	0.762 mm
Tensile Strength ASTM D-4325	1.72 Mpa
Ultimate Elongation ASTM D-4325	1000%
Operating Temperature ASTM D-4388	90°C
Emergency Overload ASTM D-4388	130°C
Thermal Resistivity	300°C
3M Transient	cm/watt
Ozone Resistance ASTM D-4388	Passes
Heat Resistance ASTM D-4388	Passes
UV Resistance ASTM D-4388	Passes
Flame Resistance	Passes
IEEE Std 27-1974 ANSI C37.20C 74	

Electrical Properties

Test Method	Typical Value*
Dielectric Strength ASTM D-4325	
Original	29.5 MV/m
24 hrs in H ₂ O	29.5 MV/m
96 hrs @ 23°C	28.7 MV/m
96% RH	
Volume Resistivity ASTM D-4325	
Original	>10 ¹⁵ ohm-cm
Aged 96 hrs @ 23°C 96% RH	>10 ¹⁴ ohm-cm
Insulation Resistance	>10 ⁶ M ohms
Dielectric Constant ASTM D-4325	
1200 volts @ 60 Hz	
23°C	3.5
90°C	3.6
Dissipation Factor ASTM D-4325	
1200 volts @ 60 Hz	
23°C	0.70%
90°C	3.00%

*This data is not to be used for specification. Values listed are for typical properties and should not be considered minimum or maximum.



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Specifications

Product

The high-voltage corona-resistant tape must be supplied without a liner and based on ethylene propylene rubber and be capable of emergency operating cable temperature of 130°C (266°F). The tape must be capable of being applied in either stretched or unstretched conditions without any resulting loss in either physical or electrical properties.

The tape must not split, crack, slip or flag when exposed to various environments (indoor and outdoor). The tape must be compatible with all synthetic cable insulations and have a shelf life of 5 years. The tape must be flame retardant.

Installation Techniques

Scotch™ 130C Electrical Tape should be applied in successive half-lapped, level-wound layers until desired build-up is reached.

This tape should be applied like any rubber tape: that is, the side of the tape wrapped *inside* the roll should be applied *outside* on the splice. This will help prevent the roll from getting progressively further away from the work area.

To eliminate voids in critical areas, highly elongate 130C Tape. Stretch tape in these critical areas just short of the breaking point; doing so will not alter its physical or electrical properties. In less critical areas, less elongation may be used. Normally 130C Tape is stretched $\frac{3}{4}$ of its original width in these critical areas. Always attempt to half-lap to produce a uniform buildup. When using 130C Tape for splicing cables above 15 kV, always highly elongate the tape throughout the entire splice.

Maintenance

Under normal storage conditions, Scotch™ 130C Electrical Tape has a 5-year shelf life. The tape is not impaired by freezing nor by overheated storage up to the point of flow which prevents removal from the package.

Important Notice

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